

## **Capitol Campus Design Advisory Committee**

*June 9, 2017*

### **Campus Exterior Lighting Project**

#### **Purpose: Information & Feedback**

The purpose of this agenda item is update the Capitol Campus Design Advisory Committee (CCDAC) on the Campus Exterior Lighting Project and to seek feedback. Michael Van Gelder, Asset Manager, will present the agenda item.

#### **Background**

Section 1098 of the 2015-2017 Capital Budget, directed the Department of Enterprise Services (DES) to “upgrade exterior lighting fixtures, wiring and controls campus-wide. The department is directed to incorporate as much Energy Services Contracting partnering as possible.” The \$1,000,000 appropriation is authorized for this project.

DES adopted a set of five goals for this project:

1. Increase campus safety at night and in the evening.
2. Maintain the historic fabric of lighting fixtures.
3. Maintain or improve campus aesthetics.
4. Create operational cost savings for the state.
5. Supplement capital funding through grants and energy savings financing.

#### **Status**

In partnership with our energy services contractor, McKinstry, DES completed an investment grade audit of existing exterior lighting on the Capitol Campus, including East Campus, West Campus, and the areas surrounding Capitol Lake. We have found that the existing lighting is of older technology which can be significantly upgraded by conversion to LED.

To date we have:

- completed a series of internal stakeholder interviews
- identified needed electrical and lighting improvements which are consistent with the goals and purpose of the project
- selected a set of candidate light fixtures that are architecturally compatible completed design and mock ups have been installed in a number of locations
- confirmed that the proposed upgrade will deliver:
  - ✓ improved safety
  - ✓ improved reliability, and
  - ✓ operational savings

Because the budget cannot replace all of the exterior lighting on campus, our approach has focused on those lighting fixtures that consume the most energy, thereby providing the greatest financial return. Generally, the project will address higher wattage lamps

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first to capture the larger return on investment, such as street lamps or area lights. Lighting for architectural highlights is a lower priority. A notable exception is replacement of the large 1,000 watt lights which illuminate the Legislative dome.

We anticipate that the project will replace about 80% of the campus fixtures and address 90% of the electrical demand associated with lighting. Some lighting will be added for pedestrian safety.

#### Maple Park:

Staff has been working to identify a possible LED retrofit of the existing fixtures or a replacement fixture which reflects the unique character of Maple Park as a seam/interface between the Capitol Campus and the South Capitol Neighborhood residential area. Though our discussions with the Maple Park residents and City staff, we achieved consensus in:

- reducing the number of fixtures
- ensuring that light trespass would be at a minimum
- installing better lighting at crosswalks for safety
- ensuring the lighting at the major intersections is compatible with city standards.

#### Lighting for Dome:

The exterior of the dome on the Legislative Building is lit up at night from eight locations around the roof of the building (refer to attached picture sheet). These floodlights are high pressure sodium (HPS) and metal halide (MH). The orange hue of the HPS mixed with the blueish hue of the MH creates a neutral warm-white wash against the stone finish of the building. However, there is a wide optic distribution of light (“spillage” and “trespass”) and relatively poor efficiency of both light sources. The project will:

- Replace high wattage floodlights with LED to yield high energy savings and reduced energy waste
- Restore current intended design effect that has degraded over time, including color and intensity
- Provide a more uniform color and intensity due to improved technology
- Provide capability of individual fixture dimmability for balancing light levels
- Reduce light pollution lost to night sky due to more focused lighting on the Dome

Enterprise Services seeks CCDAC’s feedback on the proposed improvements to the Dome lighting (see attachment).

#### **Next Steps**

DES will proceed with implementing the conversion:

- Fixtures and other equipment will be delivered by mid-June.
- West Campus installation will be phased over a week because of the multiple circuits involved.
- Staff will continue to work on outstanding issues related to Maple Park.